

Alberto Sabella Class V Deep Space Tug



Construction Data

Model Numbers	Mk II	Mk III
Date Entering Service	2271 (2/17)	2288 (2/24)
Number Constructed	251	42

Hull Data

Superstructure Points	13	13
Damage Chart	B	B
Size		
Length	117 m	117 m
Width	76 m	76 m
Height	50 m	50 m
Weight	59,210 mt	59,275 mt

Cargo, Internal

Cargo Units	7 SCU	7 SCU
Cargo Capacity	350 mt	350 mt

Cargo, Towed

Cargo Units	2800 SCU	2800 SCU
Cargo Capacity	140,000 mt	140,000 mt
Landing Capability	None	None

Equipment Data

Control Computer Type	M-1	M-1
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Transporters

standard 6-person	1	1
emergency 22-person	1	1
cargo	1	1

Other Data

Crew	42	42
Shuttlecraft	4	4
Tractor Beam Type	FTB-4	FTB-4
Number	2	2
Power Drain	2	2
Total Power Units Available	32	32

Movement Point Ratio

unloaded	3/1	3/1
loaded	*	*

Warp Engine Type

Number	FWB-2	FWB-2
Power Units Available	2	2
Stress Charts	14	14
Maximum Safe Cruising Speed	O/M	O/M
unloaded	Warp 7	Warp 7
loaded	*	*

Emergency Speed

unloaded	Warp 8	Warp 8
loaded	*	*

Impulse Engine Type

Power Units Available	FIB-2	FIB-2
	4	4

Weapons and Firing Data

Beam Weapon Type	FH-1	FH-1
Number	2 in 1 bank	2 in 1 bank
Firing Arcs	2f	2f
Firing Charts	F	F
Maximum Power	2	2

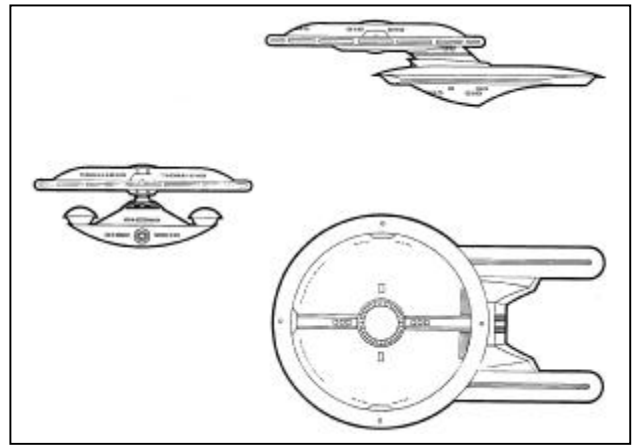
Shields Data

Deflector Shield Type	FSA	FSD
Shield Point Ratio	1/1	1/2
Maximum Shield Power	8	8

Combat Efficiency

D-- (unloaded/loaded)	44.1/*	58.6/*
WDF--	1.0	1.0
CE-- (unloaded/loaded)	0.4/*	0.6/*

* see chart below



Notes:

Space tugs are, by definition, unglamorous vehicles doing an unglamorous job: hauling cumbersome or disabled spacecraft around a planetary system, into and out of orbit. However, the powerful Starfleet deep-space tugs are a special breed and the *Alberto Sabella* class is their proudest exponent. Unlike normal space tugs, which operate close to a starport or space station, deep-space tugs are equipped for operations far from any base, to tow starships at warp speeds back to repair yards or salvage depots. They are one of the few ways a disabled ship or captured prize of war can be recovered or towed out of the reach of the enemy.

The *Sabellas* were designed in the wake of two significant events in Federation history: the Four Years War, with its heavy toll in ship losses and the development of commercial supertugs like the *Muletrain*, built for pulling massive cargo containers from asteroid mines to industrial worlds. During the War, the Federation was forced to press great numbers of small tugs, commercial and Starfleet, into service in the frontlines and many of them and their crews- ill-equipped as they were for long-duration duty- suffered greatly. Military Operations and Materiel Command agreed that a new class of deep-space tugs was necessary for service in all frontline bases to provide rescue and recovery capability near potential trouble zones.

Space tugs are normally all engine and command pod, but Chandley Works drew up the *Sabella* with lines very much like those of other Starfleet vessels, complete with a disk-shaped primary hull and a broad secondary hull to which the warp engines are attached. This simplified the design process for the external configuration and the warp stress calculations in particular. A very simple algorithm is used to determine the stresses any size of load will place on the ship, whether in tractor or pressor mode. The use of the two-hulled design also permitted the placement of roomy and comfortable crew quarters apart from the sizable deck space allocated to the tug's vital engineering functions. Though it is not equipped for long-duration missions like an *Enterprise* class vessel, a *Sabella* can be away from its source of resupply for up to a standard solar year without hardship to the crew.

The heart of the *Sabella* is its immense tractor/pressor beam arrays, one fore and one aft, that allow it to grapple, tow, or push any vessel up to Class X at warp speeds. Both these systems are located on the main pylon connecting the two hulls, close to both the center of mass and the point of main warp stability. Activation of either system affects the tug's trim and handling very little as a result, making the *Sabella* a particularly "forgiving" workhorse.

In addition, each *Sabella* carries four two-man workpods equipped with robotic arms to attach towlines and cables, life-support or power connections to a vessel as needed. These workpods have a normal endurance of eight hours outside the tug's hull; they are not equipped for atmospheric flight.

The normal mission of a *Sabella* is the recovery of vessels stranded in interstellar space. The tug secures relatively intact vessels or hulks, activates its powerful tractors and hauls it away at warp speed. Because of the careful design of the ship, it can tow vessels of up to Class III size with only a one warp factor reduction in speed- that is, its maximum safe speed becomes Warp 6 and its emergency speed Warp 7. Each weight class above Class III it tows reduces its speed by only one warp factor each, until it reaches Class X. Larger vessels, of course, may be towed by two *Sabellas*, which lose only one warp factor between them above a towed weight of Class III, making their upper weight limit a respectable Class XVII. Of course, such a mass could only be propelled at a maximum speed of Warp 1, but there are few vessels, even among the giant robotic freighters, that even approach such titanic mass. Starfleet considers this more than ample towing capacity.

Sabellas are not salvage vessels; they do not carry either the tools or the life support to sustain a crew for such tasks. A tow from interstellar space is a lengthy process and unless the crew aboard any towed vessel already has inherent life support, the tug cannot keep them alive. Though armed, *Sabellas* are not warships and if they must operate in contested space an escort is required. Depending on the amount of damage done to a ship or hulk, setting up for a tow can take as long as a day or as little as twenty minutes- the standing record. They must be protected during that time when their crews are completely occupied and the vessels are stationary in space.

The *Sabellas* have proven time and again their worth by rescuing vessels that would otherwise have been abandoned in deep space. The entire class of vessels was justified when the *Horensa Milabar* pulled the pirate-stricken *Sunshine* class liner *Emperor Ankhan* from its doomed course into a star, saving the lives of over 900 passengers and crew in 2273 (2/19). A more invaluable auxiliary starship would be difficult to conceive.

Of the 251 Mk IIs built, 227 remain in active service; 15 have been sold to private interests, 6 have been lost in action and 3 have been captured intact by either the Klingons or the Orions. Of the 42 Mk IIIs built, 40 remain in active service, one has been scrapped and one has been transferred to Starfleet Training Command. Mk IIs are being refitted to Mk III standard at the rate of 2 per year.

Sabellas are being manufactured at the shipyards at Sol IV and Sol VI at the rate of 6 per year. The Mk III *Sabella* entered service in 2288 (2/24). The Mk I *Sabella* was an unbuilt proposal which lacked weapons.

Warp Dynamics for Single *Alberto Sabella* During Towing Operations

Ship Class Towed	Maximum Warp Speed	MPR	D/CE: (Mk II / Mk III)
Class I-III	Warp 7/8	3/1	(44.1/0.4) / (58.6/0.6)
Class IV	Warp 6/7	4/1	(40.6/0.4) / (49.6/0.5)
Class V	Warp 5/6	5/1	(38.1/0.4) / (46.6/0.5)
Class VI	Warp 4/5	6/1	(37.1/0.4) / (43.6/0.4)
Class VII	Warp 3/4	7/1	(36.1/0.4) / (41.6/0.4)
Class VIII	Warp 2/3	8/1	(35.1/0.4) / (39.6/0.4)
Class IX	Warp 1/2	9/1	(34.6/0.4) / (38.6/0.4)

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